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ABSTRACT

Focusing on the impact on the instructor of the experience of preparing and using guided design modules, this conference paper highlights some of the positive outcomes of this instructional approach; the presentation of an educational psychology course module via an Apple IIe microcomputer is used as an illustration of the process. It is argued that developing guided design modules requires an analysis of the content of a course to determine critical information, and that this provides the instructor with a valuable learning experience in determining what will be most useful to the student. In addition, the nature of the instruction will require the teacher to identify the most significant and pertinent information and resources in the topic area, and engaging in that analytical activity is likely to lead to an increased perspective of the field. A microcomputer application of guided design for basic concepts related to the adult learner is then presented (with sample screens), and suggestions for its implementation are given. Concluding remarks speculate that students are likely to transfer the problem-solving skills they learn in guided design to other life experiences, thus adding to a teacher's feeling of accomplishment. (JB)

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GENERATING CAPITAL RESOURCES BY USING GUIDED DESIGN

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GENERATING CAPITAL RESOURCES BY USING GUIDED DESIGN

Many of the presentations at this conference and at others concerned with Guided Design have focused on the impact of the Guided Design instructional approach upon student learning. Those who have used Guided Design are likely to report student outcomes such as those I observed, specifically: increased student satisfaction, reduced absenteeism, self-reported gains in learning and in retention, and--over time--increased efficiency in using the problem-solving process (Morse, 1975). Typically, the outcomes for students are discernable and largely positive. However, there is another set of outcomes that has not been discussed quite so frequently--the impact on the INSTRUCTOR of the experience of preparing and using Guided Design modules. THAT impact is the focus of this paper. My comments derive from a perspective of having used Guided Design over a period of several years; most recently, through a computer-assisted medium.

A colleague of mine who recently entered full-time administration has since remarked that he misses the personal "refreshment" that accompanies teaching. Interaction with our subject matter, relevant research findings, various other resources that explicate content, and with the students themselves can renew us as teachers. When such opportunities cease, a major avenue of personal growth is lost. Another

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administrator was heard to comment that he felt he was "living off capital." As I thought about my own reaction to using Guided Design, I realized that in my twelve years of teaching in higher education, I never had a more exciting self-renewal experience than during that early period in which I first developed a series of Guided Design modules for a one-quarter course in educational psychology. That experience generated a lot of "capital resources" for me; thus--the title of this paper.

What follows are some of the positive outcomes that I feel will occur when a teacher converts his or her more traditional teaching approach into a Guided Design approach.

1. Developing Guided Design modules first requires analyzing a body of content to determine the utility of that information. Basically, this process involves teasing out critical content and then determining how it can be used to solve real-life problems. Once that is done, the next step is to consider how one could conceptualize a series of problems that would somehow require most or all of that content for their solution. This activity is very much a soul-searching experience. One must assess the role and utility of the body of knowledge that one teaches, always asking "how would it be used?".....and "what good is it in the real world?" This process leads to the realization that although we might wish otherwise, the information in our coursework is not an end in itself, but, rather a means to an end.

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As I prepared my Guided Design course, I started out with the premise that I needed to include most or all the content traditionally found in educational psychology courses. While I largely succeeded in fitting most of that content into Guided Design modules, I believe that the viewpoint with which I ENDED was that what I really needed to do was to include that content that was most useful--that could make the greatest difference to the students should they learn it. This experience was a real lesson for me. As I consider my more recent teaching history, I believe that that earlier realization was something of a turning point for me. I believe that, since that time, I have concentrated less on "covering the material," and more on making SELECTED material relevant and memorable for the students. In essence, the lesson was that I should focus on what the material could do for the students, rather than on what the act of covering it might do for me.

In the hope that learning about one particular teacher's experience may be helpful to others who might be considering implementing a Guided Design course approach, I will describe how I divided the content of my educational psychology course into modules. There was a module on human development--it focused on how knowledge about human development helps either school teachers and health professionals to make decisions about students, or patients. Another module concerned how one uses data about instructional content, learning conditions, the

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learner, and one's own personal philosophy to make decisions about how to teach. (Here, by the way, is where I first conceptualized the multiple-variable model that I still use in instructing soon-to-be-teachers how to teach.) The next module dealt with how to enhance retention of learning and how to measure its acquisition. Others dealt with correlates of school achievement, and with the concept of intelligence and the issues involved in intelligence testing. As I assess this array of modules from my perspective today, I would keep those related to human development, teaching, retention, measurement, and intelligence. Their focus on decision-making is useful and valuable. In place of those involving correlates of school achievement, I would add a module on the management of group behavior.

2. Another way in which the Guided Design development process assists the teacher relates to the identification of relevant resources. To use Guided Design, teachers will need to identify the most significant and pertinent information and resources in their topic area. Because the Guided Design process itself is going to require considerable time on the part of students, they are NOT going to have as many hours to spend studying a textbook as they would in a traditional class. Further, the teacher will likely be doing less lecturing on the content and may have less opportunity to present content syntheses or digests. Therefore, teachers will want their

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students to interact with the most cogent and significant text segments, research studies, journal articles, monographs, national policy studies, and audiovisual media.

What would these resources be for YOUR field? What do you think makes a given resource significant? How would your learners be helped to solve problems by being aware of the content of those resources? The activity of analyzing information and resources creates, in essence, a judgment as to the "state of the art" in one's field terms of its history, issues, and research. Engaging in that analytical activity is likely to lead to increased perspective. It will make clearer what one ought to consider emphasizing--or, dropping.

Further, this analysis may point out resource GAPS, and the teacher may find that his or her OWN synthesis of certain material is better than that found anywhere else. In such cases, the teacher should not only make that synthesis available to students via printed form, videotape, or live lecture, but should also consider attempting to get that synthesis published.

3. If one is considering implementing one or more Guided Design modules in a course and hasn't yet been using the computer, it would be an ideal time to move into that technology. Probably, most of us who have used Guided Design in the past have used hard copy to present the various steps of our modules to our students. During this conference some approaches

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for integrating computers into individualized instruction have been discussed; with the hope that the following discussion is not redundant, I'd like to describe my own modification of the hard copy approach.

Presently, I present the module via computer (in our school's case, Apple IIe's). I use an extremely simple-to-use authoring system that was developed locally. It requires no programming and can be used by persons with no previous computer experience. [If you DON't have a simple authoring system in place on your campus, and you DO use Apple II+'s or IIe's, we'd be glad to share. See me about this if you're interested.]

What I have been doing is to present a stimulus situation by means of the computer, then ask a variety of questions about it. Some of these questions are open-ended, and I simply provide general feedback in the next frame. Others are designed as multiple choice questions, and I provide feedback for each of the various options as soon as the response is chosen. I break the module into several segments--with the software I'm using, each segment is called a "lesson." At the end of the first segment, the student is to go away and gather information. When he or she returns, a series of questions with related feedback appear. These help the student see if he or she has attended to the critical aspects of the assigned readings. At the end of another segment, the student is asked to think about possible solutions. When that has been done, the student returns and runs the last

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lesson. Shown below are some sample portions of a module designed to orient students to basic concepts related to the adult learner:

SAMPLE 1: Here are frames #1 through #3 of the opening lesson:

"WHO ARE THESE FOLKS? WHAT DO THEY WANT?

Professor Joe Peake and Dean Betty Jackson walked across the campus parking lot. 'Some of my students seem to be getting older every year,' said Joe Peake. 'A few of them are getting into second careers. Why, some even have college degrees already. And, say, these students seem different from our regular students, too.'

'Maybe so,' replied Dean Jackson, 'but here they are, enrolled in our College of Nursing and Allied Health, studying to become health care practitioners.'

[PLEASE MOVE TO THE NEXT FRAME TO CONTINUE THIS STORY.]"

"'Another thing, too,' said Joe, 'these older folks seem more, well-- DEMANDING than the younger students. Compared to them, these adult learners seem to expect something different from me--something MORE. I have to admit I'm just a little nonplussed as to how to handle these--what do you call them--adult learners. Who are these folks? What do they really want?'

[Please move to the next frame....]"

"In any problem-solving exercise, the first step is to identify what the problem is. For Joe Peake's case, which of the following do you feel best states the basic PROBLEM?

a. Too many older people are entering professional education programs these days.

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feedback: We don't have the data to check out this statement. However, even one adult student makes Joe a little uncomfortable. This is not the best choice. Select again, please.

b. A special educational 'track' is needed for adult learners in the College of Nursing and Allied Health Sciences.

feedback: Such a track may or may not be a good idea for the College of Nursing and Allied Health, but this would be a solution, not a problem statement. Choose again.

c. Professor Peake lacks sufficient knowledge about adult learners.

feedback: This statement comes closest to what is really bothering Joe Peake. Good choice!"

SAMPLE 2: The two frames that follow show how the first lesson of that module ends:

"It seems that the time has come for Joe to start gathering information on the topic of adult learners. He will need to look up material on the following: 1. the characteristics of adult learners, 2. what are some of the reasons adults seek further learning, 3. what the concept of 'andragogy' refers to."

"You should now look up the information too!! Help Joe locate the information he needs to answer his own questions, and--hopefully--prepare a paper that will also help other teachers.

Here are some suggested readings: Knowles, The Adult Learner: A Neglected Species (2nd ed'n), pp. 27 - 59 and 108 - 110; Cross, Adults as Learners, chapters 3 & 4.

Read these materials, and jot down some notes. When you have finished, return to the computer and run the lesson entitled 'Guided Design.2'."

Essentially, the step-by-step process--which I used to handle by giving out a set of papers, waiting until I received a response and then giving relevant feedback followed by further

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instructions by means of more papers--is now handled by computer. This makes the process easier for me, and the students can work at their own pace and according to their own schedule. I still interact with the students during the process, since they can call upon me during any lesson, or between related lessons.

Computer literacy is probably the single greatest learning need for faculty right now. Now, I've never known quite how to DEFINE computer literacy, but I do think one aspect of it might be the ability to create computer-assisted instructional modules. If a faculty member were to COMBINE the creation of Guided Design modules with CAI, that would be TWO avenues for self-renewal.

4. Any teacher who implements a problem-based instructional approach such as Guided Design is likely to find himself or herself TALKING less, but TEACHING more. As students work through the problem-solving activity, they will have some difficulties, either with the concepts or the process. The teacher can spot those difficulties and direct his or her teaching where it is most needed, at the time it is needed. It is rewarding to be able to respond to genuine learning needs during teachable moments, and to know that information imparted under such conditions will likely be better retained by students because of their felt need to know it.

5. Probably one of the best means of gaining perspective

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about the business of teaching is to realize that students LEARN not so much on the basis of what teachers TELL them, but because of what teachers have the students DO. When a teacher sets up a learning activity that guides students through a process that they will use in one way or another for the rest of their lives (the problem-solving process) while also getting them to interact with the critical content in a body of knowledge, students WILL learn. One of the hardest lessons most of us have had to learn as teachers has been that students learn not so much because we TELL them things, as they do because we arrange relevant activities that get them to DO things. Developing a good module takes a great deal of TEACHING skill, but it yields a lot of satisfaction when it's implemented.

6. In addition, there's considerable satisfaction in producing students who not only have an awareness of course content and how it can be used, but who also understand the problem-solving process. I have found that with practice, students learn to move through the problem-solving steps of the Guided Design modules quite rapidly. I do not have personal evidence to support my contention, but I would speculate that students are highly likely to transfer the problem-solving skills they learn in Guided Design experiences to other life situations. Such an outcome, which I believe to be relatively likely, adds to a teacher's feeling of accomplishment.

Not all faculty are offered good opportunities for renewal

activities these days. Travel monies are limited, and many schools do not offer sabbaticals. Also, there are added pressures and stresses in higher education today, and perhaps the financial rewards aren't even what we envisioned. To a fair extent, faculty need to create their OWN opportunities for self-development and reward--in other words, generate their own capital resources. The message of this paper has been that using the Guided Design approach is one way of doing just that.

REFERENCE

Morse, J. A. A Project Report: Guided Design Implementation in Undergraduate Educational Psychology Classes at Augusta College. Unpublished paper submitted to The EXXON Education Foundation, 1975.

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